Project Implementation Plan SFY23-25

Hillsdale WRAPS

WRAPS Coordinator: Lesley Rigney

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $270,000

This WRAPS Implementation PIP will help accomplish the long-term goals established in Kansas' Nonpoint Source Management Plan Goals including:

1. No lake, river, stream or wetland has a violation of Kansas Surface Water Quality Standards due to nonpoint sources of pollutants and all designated uses are fully supported;
2. Kansas surface and ground water are protected from all nonpoint pollutant sources through the use of recommended water quality best management practices.
3. Reducing the levels of phosphorus, nitrogen, and sediment that adversely affect the water quality of Kansas lakes, rivers, streams and wetlands

	Year 1	Year 2	Year 3
Personnel/Fringe	$65,000	$65,000	$65,000
Admin/Indirect	$0	$0	$0
Travel/Supplies	$2,500	$2,500	$2,500
Strategy Implementation/BMPs	$22,500	$22,500	$22,500
Total:	$90,000	$90,000	$90,000

Estimated Load Reductions	
Phosphorus	3,321 lbs.
Nitrogen	6,570 lbs.
Sediment	2,296 tons

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
Implement nutrient reduction BMPs and reduce sediment, phosphorus, and nitrogen impairments in the Hillsdale Lake Watershed coming from cropland. Exclude livestock from contributing nutrients to waterways and improve vegetated buffers that protect waterways from surrounding land uses. The following BMPs to be completed by December 31, 2025: • Direct nutrient reduction 750 acres • Cover crops 750 acres	$67,500	3,316	6,560	2,291

• No-till 300 acres • Livestock exclusion 90 head • Permanent vegetation 30 acres				
Non-MS4 Urban Stormwater BMPs: Coordinator and staff will continue to foster partnerships with fast-developing communities in the watershed to mitigate water quality impacts not regulated through permitting. Goals include: • More widespread recognition of the watershed as a critical resource in need of protection. • Recognition that lawns can be contributor to watershed pollution. Up to 20 lawn/garden soil samples. • Six on-the-ground (1 acre total) native plantings in public spaces – schools, neighborhoods, parks, right-of-ways. • Additional classes participating in stream team program, for a total of 1,000 students per year. • Consistent financial support from cities, water suppliers and other partners to support this strategy.	$0	5	10	5

Project Information

Hillsdale Lake WRAPS Implementation SFY23-25

This WRAPS Implementation PIP will help accomplish the long-term goals established in Kansas' Nonpoint Source Management Plan including:

1. No lake, river, stream or wetland has a violation of Kansas Surface Water Quality Standards due to nonpoint sources of pollutants and all designated uses are fully supported;
2. Kansas surface and ground water are protected from all nonpoint pollutant sources through the use of recommended water quality best management practices;
3. Kansas Water Plan objectives are achieved by:
    a. Reducing the levels of pathogens, biochemical oxygen demand, dissolved solids, metals, nutrients, pesticides and sediment that adversely affect the water quality of Kansas lakes, rivers, streams and wetlands;
    b. Reducing the levels of dissolved solids, metals, nitrates and volatile organic chemicals that adversely affect the quality of Kansas ground water;
    c. Maintaining water quality conditions for unimpaired waters at a level equal to or better than existing conditions

Contact Information

Enter Sponsoring Organization Information

Sponsoring Organization Name

Miami County Conservation District

Street Address

100 Angela Street, Ste 3

City, State, Zip

Paola, KS 66071

Sponsor Tax Payer ID (FEIN)

48-0691096

Signature Authority Name

Lyle Wobker

Signature Authority Email

Bbwobker@gmail.com

Signature Authority Phone Number

Wobker 913-294-4291

Enter project contact information

Name

Lesley Rigney

Street Address

100 Angela Street, Ste 3

City, State, Zip

Paola, KS 66071

Phone Number

913-294-3751 x3 OR 913-709-9740

Email

Lesley@miamicountycd.com

Project Overview

List the HUC12s that are included in this project.

Riparian corridors of 102901020101; 10290102010102; 102901020103 and 102901020103 west of Bull Creek

Will a public water supply system be impacted by the project?

☒Yes
☐No

If yes, please enter the impacted public supplies.

Edgerton
Franklin County RWD #1
Gardner
Johnson County RWD #7
Miami County RWD #1 (a-d)
Miami County RWD #2
Miami County RWD #4
Spring Hill
Wellsville

Describe the project history.

Hillsdale Lake is a critical regional water supply, currently serving as primary drinking water source for around 80,000 residents in Johnson, Miami, Franklin and Douglas counties in Eastern Kansas. The lake is classified as highly eutrophic in a TMDL updated in 2015. It includes load reduction goals for phosphorus and nitrogen. The TMDL, and The 9-Element Watershed Plan, updated and approved in 2017, guide project activities. This proposal implements watershed plan years 10, 11 and 12.

The current grant cycle, in its final year, has focused on multiple strategies including general agriculture (includes soil health and livestock), water quality wetlands, non-MS4 urban, small-scale streambank stabilization and nutrient management. The vast majority of our project success is in soil health and nutrient management, as we struggled with streambanks and wetlands. The urban-focused

strategy takes up the majority of on-the-ground time, hosting stormwater education, collaborating with cities and serving as the watershed point-of-contact.

Enter the project start date (MM/DD/YYYY)

07/01/2022

Enter the project end date (MM/DD/YYYY)

12/31/2025

Describe your Stakeholder Leadership Team (SLT),

An umbrella SLT consists of a wide range of representatives including agriculture producers (large and small), concerned residents, recreational users and government and NGO agency staff. During COVID, we shifted from large, quarterly SLT meetings to smaller, topic-focused meetings. For instance, soil health strategy was discussed directly with producers either in group or one-on-one discussions. This worked well during COVID and we will likely continue with smaller, informal SLT meetings to direct strategies. We would also like to host an annual Hillsdale WRAPS meeting with the larger stakeholder group, which could number 30-50.

SLT Members: List the name, role, affiliation, and email for each SLT member.

Lyle Wobker, Sponsoring Organization/Livestock Producer

Robert Lynn, Ag Producer
Ted Guetterman, Ag Producer
Gayla Speer, JoCo Conservation District
Heather Schmidt, JoCo Stormwater
Aaron Batterbee, Gardner-Edgerton High School
Jerry Bennett, RWD #2/HAWC

Project Scope

Describe the TMDLs and/or water quality impairments directly addressed in this project.

The current TMDL, last updated in 2015, is for eutrophication in Hillsdale Lake. The TMDL and 9-Element plan focus implementation needs on reducing nutrient loading, specifically nitrogen and phosphorus from agricultural land uses. Proposed strategies for the 2022-2025 project support this focus, but also expand to address urban stormwater challenges brought to the forefront with the explosive development driven by the 2012 construction of the Burlington-Norther-Santa Fe Intermodal facility. We estimated recently that impervious cover in Bull Creek watershed alone has exceeded 15% and with newly annexed/planned development will reach 20% within next five years. A new TMDL, written to address this rapid, and poorly planned development, would assist us with preserving the integrity of Hillsdale Lake as a water source, and the larger watershed for all designated uses.

Please describe how this watershed has been assessed. This will include aerial assessments, soil and water tests, survey data, land use cover, and any other important information.

KDHE has always contended that the watershed is not extensively monitored, and thus most guidance and strategic planning has always depended heavily on modeling. There are three USGS gauges in the lake and its main tributaries, which USACE uses for its monitoring purposes. USACE conducts regular monitoring for nutrients and other parameters, with intermittent intensive monitoring, which should be incorporated into KDHE planning processes. Johnson County Stormwater monitors Big Bull Creek and is currently in the final phases of a very involved and comprehensive watershed master planning process that will provide detailed data and guidance for future watershed strategy development and implementation. There are other various assessments available, and in the following strategies we will outline additional assessments needed/ desired.

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$50000**	**$5000**	**$55000**
Year 2	**$50000**	**$5000**	**$55000**
Year 3	**$50000**	**$5000**	**$55000**
Total Requested	**$150000**	**$15000**	**$165000**
Description	**Salary for full-time coordinator. Coordinator is tasked with promoting the strategies and gaining widespread, critical mass support of the strategies throughout the watershed, at all levels of potential implementation from small, private site-level to large (public/industrial) site-levels. From residential-scale to neighborhood-scale. As simple as student understanding of watershed dynamics to policy level change to support watershed health. Coordinator may pursue many different funding opportunities to further the goals outlined in the strategies. Coordinator salary match is derived from local cash match contributed to the sponsoring organization by watershed counties, cities and water suppliers.**		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$15000**	**$9000**	**$24000**
Year 2	**$15000**	**$9000**	**$24000**
Year 3	**$15000**	**$9000**	**$24000**
Total Requested	**$45000**	**$27000**	**$72000**
Description	**Fringe includes employer contributions for retirement, FICA and health insurance. Match is derived from local cash match contributed by watershed counties, cities and water suppliers.**		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$1500**	**$4500**	**$3000**
Year 2	**$1500**	**$4500**	**$3000**
Year 3	**$1500**	**$4500**	**$3000**
Total Requested	**$4500**	**$13,500**	**$18,000.00**
Description	**Travel expenses include mileage and other expenses related to field visits with producers, meetings with partners, conferences and training events. Match is derived from local cash match contributed by watershed counties, cities and water suppliers. Also in-kind for use of district truck.**		

Supplies			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$1000**	**$1000**	**$2000**
Year 2	**$1000**	**$1000**	**$2000**
Year 3	**$1000**	**$1000**	**$2000**
Total Requested	**$3000**	**$3000**	**$6000**
Description	**Supplies include phone contribution, computer, software, office supplies and other items necessary for watershed coordination work. Match is derived from local cash match contributed by watershed counties, cities and water suppliers.**		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$22500**	**$22500**	**$45000**
Year 2	**$22500**	**$22500**	**$45000**
Year 3	**$22500**	**$22500**	**$45000**
Total Requested	**$67500**	**$67500**	**$135000**
Description	**Direct implementation resources to producers or other expenses directly related to on-the-ground strategy implementation. We estimate that at least half of the match will be landowner expense contributions and the remaining will be derived from local cash match contributed by watershed counties, cities and water suppliers.**		

Contractual Services			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$**	**$15000**	**$20000**
Year 2	**$**	**$15000**	**$20000**
Year 3	**$**	**$15000**	**$20000**
Total Requested	**$**	**$45000**	**$60000**
Description	**Watershed educator position (match-funded) to work in schools and with stream team groups. Match is derived from local cash match contributed by watershed counties, cities and water suppliers.**		

Other: I&E			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$**	**$10000**	**$10000**
Year 2	**$**	**$10000**	**$10000**
Year 3	**$**	**$10000**	**$10000**
Total Requested	**$**	**$30000**	**$30000**
Description	**Workshops, educational and outreach materials, mailings, signage and any other I&E needed for watershed work. This will be funded with a combination of cash match, contributed by watershed stakeholders and in-kind match, contributed by those hosting and assisting with education.**		

Indirect			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$**	**$**	**$**
Year 2	**$**	**$**	**$**
Year 3	**$**	**$**	**$**
Total Requested	**$**	**$**	**$**
Description			

WRAPS Strategic Planning

General Plan Implementation

Implementing Years 10 through 12 of the approved Hillsdale Lake WRAPS 9-Element Watershed Plan. The load reduction goals of these years of the plan are 34,646 pounds of nitrogen, 12,197 pounds of phosphorus, and 2,468 tons of sediment. The cumulative amounts to be achieved from Year 1 through Year 12 of the plan are 138,027 pounds of nitrogen, 48,468 pounds of phosphorus, and 9,874 tons of sediment. The strategies in this project implementation plan will achieve 6,570 pounds of nitrogen, 3,321 pounds of phosphorus, and 2,296 tons of sediment. The below strategies will focus on one or more specific impairments identified in the 9-Element Watershed Plan. As this grant does not provide enough funding to fully implement the identified best management practices from the plan, project coordinators will partner with various other natural resource programs to leverage resources for the implementation of such practices. These programs include but are not limited to county conservation districts state cost share programs, Natural Resources Conservation Service (NRCS) programs, Kansas Dept. of Wildlife and Parks, Farm Service Agency, municipalities, and other nonprofit organizations.

Practices implemented beyond the below strategies will focus on the improvement of soil health, watershed hydrology, and the mitigation of impairments identified in the 9-Element Watershed Plan. These practices could include innovative edge-of-field practices such as de-nitrification bioreactors; construction of water treatment wetlands or riparian buffers; or small-scale streambank stabilization.

What are the resources that you will need for General Plan Implementation?

KDHE assistance with watershed assessment. Two-three day roadside survey to determine areas to target for soil health, livestock and other practices. Track, with geodatabase, fields in cover crops, in conventional till, visible erosion, livestock in streamways, etc. Cross-reference with landowner and operator contact, for appropriate outreach.

K-State (or other) watershed specialist. Highly engaged to work on the small, but impactful, livestock operations in the watershed. Participate in, and be familiar with, watershed assessment. Collaborate on best methods of contact, collaborate on general outreach/education events and to be a part of the watershed team.

Urban conservationist (funded with NACD-TA grant). Expert on native landscaping for water quality benefits, including urban tree plantings and rain gardens. Also, qualified and able to assist cities with their stormwater BMPs, especially maintaining green infrastructure. Watershed POC for stormwater education, can host workshops on ESC, green/blue roofs, green site design, etc. as needed and appropriate.

Other TA as needed: NRCS, KDWPT, KFS - to help on projects, and with outreach/ed, as needed.

Strategy One: Nutrient Reduction – Ag BMPs

Provide a general summary of Strategy One

Implement nutrient reduction BMPs and reduce sediment, phosphorus, and nitrogen impairments in the Hillsdale Lake Watershed coming from cropland. BMPs include buffers, no-till, cover crops, soil testing, subsurface application of nutrients, permanent vegetation, and customized nutrient reduction plans. Our approach emphasizes a systems approach to water quality improvement, not only focusing BMPs within targeted areas, but working to identify next steps within each operation to elevate management practices.

Exclude livestock from contributing nutrients to waterways and improve vegetated buffers that protect waterways from surrounding land uses. Utilize livestock within systems to improve soil health and maximize vegetative productivity on crop and pasture land uses.

These efforts will take place in the riparian corridors of 102901020101, 0102, and 0103 and 102901020103 west of Bull Creek. This strategy will address the Hillsdale Lake Eutrophication TMDL.

What are the goals for this strategy?

BMP Implementation	Units	Nitrogen	Phosphorus	Sediment
Direct Nutrient Reduction	750 acres	924 lbs.	462 lbs.	411 tons
Cover crops	750 acres	3,012 lbs.	1,507 lbs.	1,234 tons
No-till	300 acres	1,320 lbs.	661 lbs.	554 tons
Livestock Exclusion	90 head	1,084 lbs.	576 lbs.	N/A
Permanent Vegetation	30 acres	220 lbs.	110 lbs.	92 tons
Total		6,560 lbs.	3,316 lbs.	2,291 tons

We will work with farmers, specifically, on nutrient reduction plans. We intend to enroll **6 farmers** annually in a systems-based plan, which may include numerous other BMPs including soil testing, cover crops, reduced inputs, etc. To achieve the reductions, we will need to sign up **600 new or enhanced acres** for soil health practices. We will work with **2-4 small livestock producers** on exclusion projects annually. We will promote other permanent vegetation programs such as CRP, WRP and can offer our own incentives, to reach **30 acres** of permanent vegetation.

Tactics and action steps

Assessment: Roadside survey to classify and map current land management practices and conditions

-by Fall 2022 have map/database available for targeting producers
-develop list of 10-15 high-potential producers to target for outreach/implementation incentives
-Form comprehensive list of crop/livestock producers in high priority areas (phone/email list by May 2023)

Outreach/Communication:
-Host quarterly meetings with participating and potential WRAPS producers – ensure ongoing engagement and networking among producers to encourage continued adoption of nutrient reduction practices.
-Host workshops twice/year for partners and producers. Topics relevant to reducing nutrients in impaired waters, with local expert speakers, producer panels, etc. In first year, two workshops are planned (reducing nitrogen inputs with cover crops and grazing cover crops).
-Follow up all workshops with at least five participant site visits, within 2 weeks of workshop.
-Share success stories and workshop takeaways on social media, print and other digital formats.
-Schedule and perform 3-5 field visits/month. Develop notes, document resource concerns and assist producers and land managers with conservation planning.
-Send out spring and summer newsletters to watershed residents showcasing current projects and success stories, providing timely articles about reducing nutrient loading from larger, rural landscapes and promoting BMPs.
-Continue current successful social media (Facebook) efforts and expand into YouTube, with monthly videos on watershed/conservation topics, including quarterly videos showcasing nutrient reduction strategies.

Implementation:
-Create custom nutrient reduction plans for SIX producers annually. Build on mutual (producer/WRAPS) goals, resource concerns and land capacity. Refine incentive programs to encourage strategy adoption to reduce overall sediment, nitrogen and phosphorus losses from all types of operations.
-Reward producers who are succeeding at BMPs, by highlighting their efforts publicly in publications and in social media.
-Integrate WRAPS and other funding into eligible nutrient reduction plans to include soil testing, fencing, watering facilities, subsurface and variable rate fertilizer application, buffers, no-till and cover crops. Explore innovative incentives to encourage practices such as roller crimping and piloting reduced fertilizer application below recommended amounts.

Key performance indicators for the tactics

	Y1	Y2	Y3	Total
Assessment				
Survey	1	0	0	1
BMP Indicators				
Nutrient Reduction Plans6	6	6	18	
Soil Testing (Sites)	6	6	6	18
Reduced and/or Subsurface App (acres)	250	250	250	750
Cover Crops (New/Improved Acres)	250	250	250	750
No-Till (New Acres)	100	100	100	300
Livestock Exclusion (Head)	30	30	30	90
Permanent Veg (Acres)	10	10	10	30
Outreach/Comms Indicators				
Quarterly Networking Mtgs	4	4	4	12
Workshops	2	2	2	6
Field Visits	36	36	36	108
Newsletters	2	2	2	6
Facebook Posts	48	48	48	144
YouTube Videos	4	4	4	12

What are the resources that you will need and use to get the tactics done?

WRAPS Allocation for BMPs - $67,500 to incentivize innovative practices that may not be allowed by NRCS and others.

Majority of coordinator time/effort will happen here.

Support from partners - farmers, soil health teachers, ag retailers, etc. - in hosting meaningful and impactful workshops/ed events.

Watershed specialist time to assist with outreach strategy, design projects and help see them through to completion.

Ongoing opportunities for training in nutrient reduction practices, soil health and best water quality practices in general. Opportunities to collaborate with and learn from peers.

Support of local conservation districts to assist with bulk mailing, social media promotion of events, use of equipment/vehicles/supplies.

Strategy Two: Non-MS4 Urban Conservation

Provide a general summary of Strategy Two

Coordinator and staff will continue to foster partnerships with fast-developing communities in the watershed to mitigate water quality impacts not regulated through permitting. Coordinator serves as regional resource and central point of contact for many watershed-related planning efforts, including the forthcoming Johnson County Stormwater Master Plans, one of which will provide detailed analysis of the watershed and suggest areas to focus conservation in. We will continue to leverage outside support, both funding and technical support, as we work to protect this area in the midst of extreme development pressure. Projects will include native plantings and delivering conservation education and outreach to non-agricultural residents, local government agencies and staff (including schools), private sector businesses and landowners, and volunteer/civic groups.

This strategy will address the Hillsdale Lake eutrophication TMDL in the following HUC12s: 102901020101; 10290102010102; 102901020103

What are the goals for this strategy?

-More widespread recognition of the watershed as a critical resource in need of protection.

-Recognition that lawns can be contributor to watershed pollution. Up to 20 lawn/garden soil samples.

-Six on-the-ground (1 acre total) native plantings in public spaces – schools, neighborhoods, parks, right-of-ways with a load reduction of 10 lbs. N, 5 lbs. P, and 5 tons sediment.
-Additional classes on board with stream team program, for a total of 1000 students per year. All GEHS general bio classes participate in watershed streams in-class unit, leading to increased enrollment in upper level field bio and zoology classes that perform stream monitoring.
-Consistent financial support from cities, water suppliers and other partners to support this strategy.

Tactics and action steps

Outreach/Communication:

-Host quarterly meetings with partners and participants, to grow the base of support for the watershed. Encourage engagement and facilitate collaboration opportunities amongst partners.

-Host workshops quarterly for residents and stakeholders. Topics relevant to reducing stormwater pollution in the watershed: native landscaping, urban stormwater BMPs, community wetlands and habitat for watershed health, healthy lawn care, etc.

-Follow up all workshops with at least five participants, within 2 weeks of workshop, to identify potential projects or areas for collaboration/action.

-Share success stories and workshop takeaways on social media, print and other digital formats.

-Schedule and perform 3-5 field visits/month. Develop notes, document resource concerns and assist residents and land managers with conservation planning.

-Send out spring and summer newsletters to watershed residents showcasing current projects and success stories, providing timely articles about watershed events and urban/community topics.

-Continue current successful social media (Facebook) efforts and expand into YouTube, with monthly videos on watershed/conservation topics, including quarterly videos showcasing urban stormwater/ community conservation strategies.

-Work with KDHE and others to address ongoing stormwater challenges in the watershed.

Implementation:

-Facilitate installation of at least TWO native plantings in high visibility areas, annually.

-Reward communities, organizations and residents who are leading the way with healthy watershed practices, by highlighting their efforts publicly in publications and in social media.

-Integrate WRAPS and other funding into eligible pilot/demonstration projects related to community conservation and urban stormwater. This could include tree plantings, rain garden/bioswale plantings, community wetlands, etc.

Key performance indicators for the tactics

	Y1	**Y2**	**Y3**	**Total**
BMP Indicators				
Native Plantings	2	2	2	6
Soil Testing (Sites)	20	20	20	60
Outreach/Comms Indicators				
Quarterly Networking Mtgs	4	4	4	12
Workshops	4	4	4	12
Site Visits	12	12	12	36
Newsletters	2	2	2	6
Facebook Posts	48	48	48	144
YouTube Videos	4	4	4	12
Stream Team (Students)	1000	1000	1000	3000

What are the resources that you will need and use to get the tactics done?

This strategy, outside of coordinator salary, is funded through other programs and matching funds. The main resources needed to complete this strategy is ongoing match funding for watershed educator who functions in schools and with youth. These funds will also go towards replacing stream team equipment and materials as needed. A major resource needed for this item is volunteers during some of the stream team events.

The Urban Conservationist position, funded through NACD-TA grant, is in its second year and as long as it continues, provides enormous benefits and expertise to the project.

Technical resources needed might be outside experts to speak about native landscaping, urban BMPs, etc. We may pursue additional funding resources to incentivize urban BMPs that are beyond the capacity of this WRAPS grant to fund.

This strategy as well as the last will require support from our partners, especially conservation districts, in promoting our events and important messages throughout the year.